

SHVAL'BOYM, I.S.

New drive for the feeding mechanism in two-floored frame saws.  
Der.prom. 13 no.1:22-23 Ja '64. (MIRA 17:4)

1. Zavod "Severnnyy kommunar", g. Vologda.

AUTHOR: Shval'boym, M.I., Engineer SOV-128-58-7-13/20

TITLE: Modernization of the "111" Sand Mixers (Modernizatsiya begunov marki 111).

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 7, p 26 (USSR)

ABSTRACT: The wear of bearings and a bevel gear in "111" sand mixers in the foundry of the plant "Severnny kommunar" stopped the mixers 3-4 times a month. The article describes and shows by diagram the old design of the mixer and a new modification, which consisted of applying a special vertical-shaft motor and reducing gear placed in a housing on horizontal slides. No perceptible wear of parts has yet developed after 1.5 years of use. There are 2 diagrams.

1. Foundries--Equipment 2. Machines--Design

Card 1/1

SHVAL'BOYM, M.I.

The RD75-6 and RD75-7 two-level sawmills. Biul.tekh.-ekon.inform.  
no.2:44-45 '62. (MIRA 15:3)

(Sawmills)

SHVAL'BOYM, N.

Our creative designs. NTO 3 no.12:39 D '61. (MIRA 15:1)

1. Predsedatel' soveta pervichnoy organizatsii nauchno-  
tekhnicheskogo obshchestva zaveda "Severnnyy kommunar", g.  
Vologda.

(Vologda—Woodworking machinery)





SHVALEV, Lev Nikolayevich

[Safety engineering in large-panel housing construction]  
Tekhnika bezopasnosti v krupnopanel'nom domostroenii.  
Moskva, Stroizdat, 1965. 109 p. (MIRA 18:5)

SHVALEV, L.N. (Moskva G-165, Studencheskaya ul. d. 33/7, kv.86)

Analysis of the causes of traumatism in large-panel construction  
and methods of its prevention. Ortop., travm. i protez. 25  
no.12:53-57 D '64. (MIRA 19:1)

1. Iz Kafedry tekhniki bezopasnosti i protivopozharnoy  
tekhniki (zav. -- prof.N.D.Zolotnitskiy) Moskovskogo inzhenerno-  
stroitel'nogo instituta imeni V.V.Kuybysheva. Submitted May 27,  
1963.



SHVALEV, ~~SH~~ L.P.

May 1948

USSR/Electricity  
Furnaces, Electric  
Controls, Electric

"Automatic Control of Electric Resistance Furnaces," V. V. Kudryavtsev, L. M. Ioffe,  
L. P. Shalev, K. I. Glushkov, P. I. Selivanov, E. S. Popov, Plant imeni Molotov,  
Ministry of Armament, 1 p

"From Energet" No 5

Staff of above plant did not allow shortage of electric automatic controls to prevent  
increased output. Designed and installed a thermocouple-potentiometer type system,  
a circuit diagram of which is reproduced. Suggestion was awarded a fifth prize  
in All-Union competition.

ap

ORLOV, R.S.. SHVAL'NYA, Y. N.

Application of certain physiological rules for  
clarification of symptoms of cerebral and cerebellar  
otogenous abscesses. Vest. orinolar. Moskva 15 no.6:  
30-34. Nov.-Dec. 1953. (CINL 25:5)

1. Assistant Departmental Physicians. 2. Of the Clinic  
for Diseases of the Ear, Throat, and Nose (Director --  
Prof. N.N. Loxanov), Kazan' Medical Institute.

"Kuznetsov, N. N.: Experimental-histological investigation of the receptor innervation of the renal basin and certain portions of the kidneys." Kazan' State Medical Inst. Chair of Histology. Kazan' 1956. (Dissertation for the Degree of Candidate in Medical Sciences)

Source: Kazanskaya Istorija No. 2 1956 Moscow

SHVALEV, V.N.

**Finding** ganglionic nerve elements in separate parts of the kidney.  
Urologia 22 no.6:3-6 N-D '57. (MIRA 11:2)

1. Iz kafedry gistologii (zav. - zasluzhennyy deyatel' nauki prof.  
A.N.Mislavskiy) Kazanskogo meditsinskogo instituta.  
(KIDNEYS, innerv.  
ganglionic nerve elements, histol.)

USSR / Human and Animal Morphology (Normal and  
Pathological). Nervous System. Peripheral  
Nervous System.

S

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 16961

Author : Shvalev, V. N.

Inst : Not given

Title : On the Spinal Afferent Innervation of  
Kidney Parenchyma

Orig Pub : Arkhiv anatomii, gistol. i embriol., 1958,  
No 2, 47-53

Abstract : It was shown on 133 pairs of kidneys (K)  
of dogs, cats and white rats with the  
application of impregnation according to  
Bil'shovskiy-Gross as well as a result of 47  
operations of extirpation of spinal cord  
ganglia and dissection of nn. splanchnici

Card 1/3

62

SHVALEV, V.N., kand.med.nauk

Receptor spinal innervation of certain parts of the nervous system  
of the kidney. Urologiia 24 no.2:15-20 Mr-Apr '59. (MIRA 12:12)

1. Iz kafedry gistologii (zav. - prof. A.N. Mislavskiy) Kasanskogo  
meditsinskogo instituta.

(KIDNEYS, innervation,  
receptor spinal innervation (Rus))

SHVALEV, V.N., kand.med.nauk

Micromorphology and sources of sensory innervation of the kidney.  
Urologia 24 no.4:21-25 J1-Ag '59. (MIRA 12:12)

1. Iz kafedry gistologii (zav. - zasluzhennyy deyatel' nauki prof.  
A.N. Miloslavskiy) Kazanskogo meditsinskogo instituta.  
(KIDNEY innervation)

SHVALEV, V.N.

Interceptors of the kidneys in health and pathology. Trudy Len.  
ob-va est. 74 no. 1:70-73 '63. (MIRA 17:9)



SEVALEV, I. M.

On the morphological character of kidney innervation. Dokl. morf.  
12 no. 4: 418-420 1964.

1. Laboratoriya morfologii (zav. chlen korr. AN SSSR prof. N.G.  
Kobulev) i Instituta fiziologii Imeni Pavlova AN SSSR.

SHVALEV, V.N.

Afferent elements in the composition of the intracranial nervous apparatus of the kidney. Dokl. AN SSSR 158 no.5:1231-1234 O '62.

(MIRA 17:10)

1. Institut fiziologii im. I.P.Pavlova AN SSSR. Predstavleno akademikom V.N.Chernigovskim.

SHVALEV, V.N. (Leningrad, Koltushi, ul.akademika Bykova, 19-a, kv.63)

Survey of the symposia in the All-Union Scientific Society of  
Anatomists, Histologists and Embryologists dedicated to the  
centennial of the Kazan neurohistological school. Arkh. anat.,  
gist. i embr. 47 no.12:122-126 D '64.

(MIRA 18:4)

SHVALEV, V.N. (Leningrad, Koltushi, ul. akademika Bykova, 19a, kv.03)

Innervation of the nephron. Arkh. anat., gist. i embr. 47 no.12:35-43  
D '64. (MIRA 18:4)

1. Laboratoriya morfologii (zav. - chlen-korrespondent AN SSSR  
prof. N.G.Kolosov) Instituta fiziologii imeni Pavlova AN SSSR.

SHVALEV, V.N.

Experimental morphological examination of the neural apparatus  
of the kidney. Biul.eksp.biol.i med. 58 no.10:110-113 0 '64.  
(MIRA 18:12)

1. Laboratoriya morfologii (zav. - chlen-korrespondent AN SSSR,  
prof. N.G.Kolosov) Instituta fiziologii imeni Pavlova (dir. -  
akademik V.N.Chernigovskiy) AN SSSR, Leningrad. Submitted July 4,  
1963.

SHVALEV, V.N.

Modern ideas on the structure and nature of the neural apparatus  
of the metanephros. Izv. AN SSSR. Ser. biol. no.5:731-743  
S-O '65. (MIRA 18:9)

1. Institut fiziologii im. I.P. Pavlova AN SSSR, Leningrad.

SHVALEV, Vadim Nikolayevich; KOLOSOV, N.G., otv. red.

[Innervation of the kidneys] Innervatsiya pochek. Moskva, Nauka, 1965. 176 p. (MIRA 18:11)

1. Chlen-korrespondent AN SSSR (for Kolosov).

SHVALEV, V.N.

Current problems of the morphology and nature of the nervous apparatus  
in kidneys. Arkh. anat., gist. i embr. 49 no.7:54-64 J1 '65. (MIRA 18:10)

1. Laboratoriya morfologii (zav. - chlen-korrespondent AN SSSR  
prof. N.G.Kolosov) Instituta fiziologii imeni Pavlova AN SSSR,  
Leningrad.



1ST AND 2ND ORDERS										1ST AND 2ND ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<div style="position: relative; height: 100px;"> <span style="position: absolute; top: 0; left: 0; font-size: 2em; font-weight: bold;">10</span> </div>										<div style="position: relative; height: 100px;"> <span style="position: absolute; top: 0; left: 0; font-size: 2em; font-weight: bold;">10</span> </div>									
<p> <i>The diene synthesis with methylenecanthrene. L. S. Shvayeva. Uchenye Zapiski Kazan. Gosudarst. Univ. im. V. I. Ulyanova-Lesina 104, No. 3, Shernid Studencheskikh Rabot No. 3, 84-7(1941).—Methylenecanthrene reacts in PhNO<sub>2</sub> with CH<sub>2</sub>:CHCH<sub>2</sub>OH to give a benzanthronylcarbinol, m. 192-4°; with CH<sub>2</sub>:CHCH<sub>2</sub>Cl to form a red glass; with citraconic anhydride to form a compl., m. 211-16°, which has lost 2 H atoms; and with CO(CH<sub>2</sub>CHPh)<sub>2</sub> to give a mixt. of compls. m. 122-8°, 179-81°, and about 230°, which could not be purified.</i> </p>																			
H. M. Leicester																			
ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION																			
80000 STYVSLVN										80000 BOWINV									
80000 NO 2										80000 MAY ONY GSE									
80000 NO 2										80000 MAY ONY GSE									
80000 NO 2										80000 MAY ONY GSE									

SHVALEVA, L.S.; PROLOVA, N.G.

Trilonometric method of determining the sodium sulfate content in  
lyes. Bum.prom. 31 no.10:21 0 '56. (MIRA 10:1)

1. Vtoroy Kaliningradskiy tsellyulozno-bumazhnyy kombinat.  
(Trilon B) (Lye) (Sodium sulfates)

REMANO, A. .

"Changes in the Vitamin A and Yurotin Content of the Blood During  
Scarlet Fever in Children." Cand Med Sci, Leningrad State Pediatrics  
Medical Inst, Leningrad, 1955. (KL, No 10, Mar 55)

SC: Sum. No. 670, 22 Sep 55--Survey of Scientific and Technical  
Dissertations Defended at USSR Higher Educational Institutions (15)

SHVALKO, A.D., kand.med.nauk

Bacteriological clearance in whooping cough. Vop. okh. mat. i  
det. 6 no. 2:45-48 F '61. (MIRA 14:2)

1. Iz kafedry infektsionnykh zabolevaniy u detey (zav. - dotsent  
A.T. Kuz'micheva) Leningradskogo pediatricheskogo meditsinskogo  
instituta (dir. - prof. N.T. Shutova) i Detskoy infektsionnoy  
bol'nitsy imeni K. Libknekhta (glavnyy vrach S.P. Novikova).  
(WHOOPIING COUGH)

SHVALKO, A.D., kand.med.nauk

Characteristics of whooping cough in children during the first  
half year of life. Sov.med. no.3:78-82 '62. (MIRA 15:5)

1. Iz kafedry infektsionnykh detskikh bolezney (zav. - dotsent  
A.T. Kuz'micheva) Leningradskogo pediatricheskogo meditsinskogo  
instituta (dir. - kand.med.nauk Ye.P. Semenova) i Infektsionnoy  
detskoy bol'nitsy imeni K. Libknekhta (glavnyy vrach S.P. Novikova).  
(WHOOPING COUGH)

SHVALKOVSKAYA, Dz. K.

SHVALKOVSKAYA, Dz. K. -- "Changes in the Physical Properties of Sandy Soils under the Influence of Cultivation." Min Higher Education USSR. Riga, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences). Latvian Agricultural Academy.

So.: Knizhnaya Letopis', No. 6, 1956.

L 12582-63

EPR/EWP(j)/EPF(c)/EWT(m)/BDS

AFFTC/ASD

Ps-4/Pr-4/

Pc-4 RM/TW

ACCESSION NR: AP3003313

S/0191/63/000/007/0055/0058/14

AUTHOR: Mirolubov, I. N.; Sergiyevskiy, N. D.; Loginov, V. G.; Tkachev, P. I;  
Shvalyuk, L. A.; Koly\*gin, S. K.

TITLE: Effect of temperature on SNP thermoplastic

SOURCE: Plasticheskiye massy\*, no. 7, 1963, 55-58

TOPIC TAGS: SNP thermoplastic, tensile stress, GOST 4646-49

ABSTRACT: Authors tested the stability of SNP-284 thermoplastic at temperatures from 0 to 60C. The effect of temperature on its maximum tensile stress and specific impact strength was determined. Samples were used which were produced from a sheet. Shape and size corresponded to GOST 4646-49. The samples were fractured on a TsDM-10 machine which had a maximum force of 2000 kg and deformation rate of 10 mm/min. in a special thermostat. A photograph of the machine is included in the article. Authors then construct curves for the data obtained in these tests and discuss each curve in detail. Orig. art. has: 8 figures and 2 tables.

Card 1/2

KUDRYAVTSEV, V.A.; SHVALYUK, V.A.

Dynamic tests of rubber for shock absorbers. Zav.lab. 31  
no.10:1256-1258 '65. (MIRA 1961)



SHVAN Aleksandr Germanovich; VOLKOVICH, Mikhail Mikhaylovich;  
CHERNYAKOVA, I.Z., inzh., red.; FOMICHEV, A.G., red. izd-va;  
GVIRTS, V.L., tekhn. red.

[Semiautomatic machine for trimming and kurling the edges of  
parts having the state of a body of revolution] Poluavtomat  
dlia obrezki i zakatki borta detalei, imeiushchikh formu tel  
vrashcheniia. Leningrad, 1961. 8 p. (Leningradskii Dom na-  
uchno-tekhnicheskoi propagandy. Opyt novatorov. Seriya: Go-  
riachaia i kholodnaia obrabotka metallov davleniem, no.8)  
(MIRA 14:12).

(Machine tools)

SHVAN, A.G.

Semiautomatic unit for filling barrels with cup grease. Transp. i  
khran. nefi no.7:28-30 '63. (MIRA 17:3)

1. Leningradskiy filial Spetsial'nogo konstruktorskogo byuro "Trans-  
neft'avtomatika".

SHVAN, I.

School of advanced experience (Republic Seminar of District  
Pediatricians). Zdravookhranenie 4 no.6:60-61 N-D '61. (MIRA 15:2)  
(PEDIATRICS\_\_CONGRESSES)

SHVAN, I.A.

Separation of neutral 17-ketosteroids in rheumatic fever in children under the influence of hormone therapy. Zdravookhranenie 3 no. 5:10-14 S-0 '60. (MIRA 13:10)

1. Iz kafedry fakul'tetskoy pediatrii (zav. - deystvitel'nyy chlen AMN prof. M.S. Maslov) Leningradskogo pediatricheskogo instituta (direktor - prof. N.P. Shutova).  
(RHEUMATIC FEVER) (HORMONE THERAPY) (STEROIDS)

KHLEBNIKOVA, G.Ya.; DVORZHETSKAYA, L.A.; SHVANEVA, M.K.

Use of the emission spectral analysis for substances for pure  
luminophors and luminophors. [Trudy] GIFK: no.51:107-110 '64.  
(MIRA 18:5)

L 12844-65 ASD(a)-5/AS(mp)-2/APGC(b)/BSD/RAEM(1)/ESD(gs)/ESD(t)  
ACCESSION NR: AT4044999 S/3110/64/000/051/0107/0110

AUTHOR: Khlebnikova, L. Ya.; Dvorzhetskaya, L. A.; Shvaneva, M. K.

TITLE: Application of emission spectral analysis to luminophors and substances of luminophor purity

SOURCE: Leningrad. Gosudarstvennyy Institut prikladnoy khimii. Trudy\*, no. 51, 1964. Khimiya i tekhnologiya lyuminoforov (Chemistry and tekhnology of luminophors) 107-110

TOPIC TAGS: luminophor, emission spectrum, emission spectroscopy, spectrographic analysis, zinc sulfide, cadmium sulfide, lead sulfide, zinc selenide, cadmium selenide, lead selenide, calcium phosphate, zinc phosphate, strontium phosphate, ammonium phosphate, ammonium carbonate, strontium sulfide, calcium halophosphate, copper, iron, nickel, cobalt, manganese, bismuth, antimony

ABSTRACT: The authors describe the use of emission spectroscopy for the simultaneous determination of microquantities of Cu, Fe, Ni, Co and Mn in zinc, cadmium and lead sulfides and selenides, as well as of Cu and Fe in calcium, strontium and zinc phosphates, Cu in ammonium phosphate and carbonate, Cu, Bi, Li and K in luminophors based on strontium sulfide, Sb in a halophosphate luminophor, and Cu and Fe in zinc sulfide luminophors. The technique is described in detail (evapora-  
Card 1/2

L 12844-65

ACCESSION NR: AT4044999

tion from a carbon anode at a direct current of 8-15 amperes, the spectra being recorded on an ISP-28 spectrograph and compared with standards). In addition to the use of direct spectral analysis, ZnS was also enriched by chemical and physical means; chemical enrichment was also used for cadmium selenide, and physical enrichment for cadmium sulfide. The results, which are given in detail for each compound, showed satisfactory accuracy and a sensitivity in the range of  $1 \times 10^{-6}$  --  $5 \times 10^{-4}$ % for most of the impurities.

ASSOCIATION: Gosudarstvennyy Institut prikladnoy khimii, Leningrad (State Institute of Applied Chemistry)

SUBMITTED: 00

ENCL: 00

SUB CODE: IC,OP

NO REF SOV: 008

OTHER: 000

Card 2/2

DZHAMAGI, M. Sh.; SHVANTIRADZE, R.R.; MA'TSEA, Ya.A.; GILAVA, M.P.

Study on the self-absorption edge in boron. Fiz. tver. tela 7 no.6:  
1563-1564. My '65. (MIRA 18:5)



Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7,  
pp 183-184 (USSR) 14-57-7-15383

AUTHOR: Shvan-Guriyskiy, I.

TITLE: Agriculture in the Otar Valley (Zemledeliye v Otarskoy  
doline)

PERIODICAL: S. kh. Kirgizii, 1956, Nr 9, pp 42-47

ABSTRACT: In the Dzhambul Oblast of the Kazakh SSR the collective farms of Kirgiz SSR have been allotted 500 hectares of desert and semidesert land which they are now using for pasture (Kenes-Anarkhay) and, partially, for raising crops (the Otar valley and Baba-Say). Some 15 000 hectares in the Otar valley, which lies north-east of the Chuiliyskiye mountains, have been sown with cereals. The most successful type of crop in this area is one that has a short growing period, is drought and cold resistant, and can thrive by using

Card 1/2

14-57-7-15383

Agriculture in the Otar Valley (Cont.)

the moisture available in early spring. The Otar valley can yield 9 to 11 centners of wheat and 10 to 11 centners of barley from each hectare, but up to the present the harvest has usually been about half as large.

V. V.

Card 2/2

SHVAN-GURIYSKIY, I. P.

25761 SHVAN-GURIYSKIY, I. P. Prodolzhitel' Nost" Khraneniya srezannykh.  
Zhurnal, 1946, No. 7 s. 51-52

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948.

CHVAN-MRIYSEIY, I. P.

"Chinese dates", Priroda, No. 3, 1949

SHVAN-GURIYSKIY, I.P.

I-3

USSR/Plant Physiology - Water Regime.

Abs Jour : Ref Zhur - Biol., No 6, 1958, 24662

Author : Shvan-Guriyskiy I.P.

Inst : -

Title : On the Withering Coefficient and Its Significance.

Orig Pub : Bul. nauchno-tekhn. inform. Kirg.n.-i.in-t zhivotnovodstva i vet., 1956, No 1-2, 49-52

Abstract : The withering coefficient (WC) of sprouts in the third leaf phase and of mature plants of fodder grasses in the Sussamyr valley of Kirgisia was studied. The WC, determined in varieties of plants in vegetation vessels, varied between 6.9 and 11.9 (to the weight of absolutely dry soil). The smaller the area of the plant's leaves, the lower the WC. Thus, for orchard grass the area of the leaves was 56 cm<sup>2</sup>, the WC- 10.1%; for tipchak grass the area was 2 cm<sup>2</sup>, the WC-6.9%. In connection with great varieties in the WC, different plant species had at their disposal

C Card 1/2

SHVAN-BIRIYSKIY, I. P., Cand Agric Sci (diss) -- "Dry-land grass planting in the Susamyr Valley". Frunze, 1959. 18 pp (Kirgiz Sci Res Inst of Animal Husbandry and Vet Med), 130 copies (KL, No 14, 1960, 135)

SHVACHENKO, P.V., prof.; SHVACHENKO, I. ., sel'skokhoz. nauk

Efficient landscaping of automobile roads. Avt. dor. 27  
no.4:29 Ap '64. (MIRA 17:9)

SHVAB. BURIYKAY, P.V., prof.; SHVAB. BURIYKAY, I. ., sol'skokoz. nauk

Efficient landscaping of automobile roads. Avt. dor. 27  
no.4:29 Ap '64. (MIRA 17:9)



30(1)

SOV/26-59-5-30/47

AUTHOR: Shvaandrov, F.A. (Gor'kiy)

TITLE: Damage to Gooseberry and Strawberry Plants by Rodents

PERIODICAL: Priroda, 1959, Nr 5, pp 110 - 111 (USSR)

ABSTRACT: The author describes damage done by rodents to the orchards at Gor'kiy in the winter 1956/57. Mice attacked the 8-to 10-year old apple trees with trunks up to 10 cm diameter. Protection of plants by thorny branches etc made no difference. This was established by N.M. Dukel'skaya in 1954 and by T.A. Adol'f in 1956. Nests of rodents were found in the gooseberry and strawberry bushes, where they wintered under snow and destroyed roots and stems. As a remedy (apart from the usual arsenic preparations), the author suggests powdering the plants with hexachlorane, which keeps the vermin away for a month or more in the summer and for

Card 1/2

SOV/26-59-5-30/47

Damage to Gooseberry and Strawberry Plants by Rodents

much longer in winter. There is 1 photograph.

Card 2/2

SHVANDEROV, F.A.

Development of technical creativeness in work classes.  
Politekh.obuch. no.12:69-71 D '59. (MIRA 13:5)

1. Srednyaya shkola No.8, g.Gor'kiy.  
(Manual training)

SHVANEV, G.T.

The workers of the Virgin Territory should be provided with all means of telecommunications. Vest. svyazi 22 no.9:20-21 S '62. (MIRA 15:9)

1. Nachal'nik TSelinogradskogo krayevogo upravleniya svyazi.  
(Virgin Territory--Telecommunication)

SHVANEV, K. A., Cand Tech Sci -- (diss) "Study of the basic problems of <sup>the</sup>  
<sup>working of conjugate</sup> ~~mining~~ thin steeply <sup>declining</sup> ~~dipping~~ veins." Len, 1958. 14 pp (Len Order of  
Lenin and Labor Red Banner Mining Inst im G. V. Plekhanov), 100 copies  
(KL, 16-58, 121)

-76-

SHVANEV, K.A.

Comparative evaluation of combined and separate methods of working  
continuous seams. Izv.Kar. i Kol'.fil.AN SSSR no.3:123-128  
' 58. (MIRA 11:12)

1. Gruppya gornogo dela Kol'skogo filiala AN SSSR.  
(Mines and mineral resources)

20852

S/028/61/025/003/041/047  
B104/B203

9.4160 (also 1153, 1395)

AUTHORS: Dvorzhetskaya, L. A., Khlebnikova, L. Ya., and Shvaneva, M. K.

TITLE: Spectrum analysis of some luminophore-pure substances and some luminophores

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 3, 1961, 422-423

TEXT: This paper was read at the 9th Conference on Luminescence (Crystal Phosphors) in Kiev, June 20-25, 1960. The authors attempted to study, by means of emission spectrum analysis, luminophore-pure substances and luminophores examined at the laboratoriya svetosostavov Gos. in-t prikl. khimii (Laboratory of Luminescent Substances of the State Institute of Applied Chemistry). Zinc sulfide was detected in nearly all luminophore-pure substances; the method developed by G. I. Kibisov et al. (Kibisov G. I., Rezvova M. I., Vinnichenko E. N., Materialy X Soveshchaniya po spektroskopii, v. 2, p. 417, Izd. L'vovsk. un-ta, 1958) for direct spectrum analysis makes use of this circumstance, a chemical enrichment being conducted

Card 1/3

20852

Spectrum analysis of some...

S/048/61/025/003/041/047  
B104/B203

previously. The other substances were studied by direct spectrum analysis, since all of them had been analyzed before. The analysis was made by complete evaporation of the specimen in the crater of a carbon electrode; the spectral apparatus consisted of a quartz spectrograph of medium dispersion. It was possible to photograph the spectra. Quantitative analyses were made with the aid of standards. Table 1 compiles the results of quantitative spectrum analysis of luminophore-pure substances. The error of determination is  $\pm 15\%$ . Table 2 gives results of further luminophores. The authors thank L. Ya. Markovskiy for advice and interest. There are 2 tables and 5 Soviet-bloc references.

Card 2/3



20852  
S/048/61/025/003/041/047  
B104/B203

Spectrum analysis of some...

Legend to Table 1:  
(1) Substance to be analyzed, (2) method, (A) direct, (B) chemical enrichment, (C) physical enrichment.

1 Анализируемое вещество	2 Метод	10 <sup>-3</sup> C. %				
		Cu	Fe	Ni	Co	Mn
ZnS	В Прямой	0,5	5	5	10	5
ZnS	Химическое обогащение	0,001	0,1	0,2	0,4	—
ZnS	Физическое* обогащение	—	—	1	1	—
CdS	С	0,7	6	5	10	—
PbS		3	5	5	10	3
ZnSe		1	50	20	40	5
CdSe	В Прямой	1	50	20	40	—
CaHPO <sub>4</sub> solution		5	50	—	—	—
NH <sub>4</sub> HPO <sub>4</sub> (27 % раствор)		5	—	—	—	—
(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> (20 % раствор)		5	—	—	—	—

Legend to Table 2:

(1) Luminophore, (2) element determined, (3) on the basis of SrS, (4) on the basis of CaHPO<sub>4</sub>, (5) luminophore of the type ФКП-03(ФКР-03), (6) luminophore of the type К-5(K-5)

Table 1

1 Люминофор	2 Элемент	3 C. %
3 На основе SrS	Cu	1·10 <sup>-4</sup> + 1·10 <sup>-2</sup>
	Bi	0,001 + 0,1
4 На основе CaHPO <sub>4</sub>	Sb	0,1 + 4,5
5 ФКП-03	Fe	5·10 <sup>-3</sup> + 1·10 <sup>-2</sup>
	Fe	5·10 <sup>-6</sup> + 1·10 <sup>-3</sup>
6 К-5	Cu	5·10 <sup>-4</sup> + 1·10 <sup>-4</sup>

Card 3/3

SHVANG, L.I.; ROMM, I.Ya.

Electroencephalographic modifications in dysmenorrhea. Akush. gin.  
no. 1:25-32 Jan-Feb 1953. (CML 24:2)

1. Of the Institute of Obstetrics and Gynecology (Director -- Prof.  
A. P. Nikolayev), Academy of Medical Sciences USSR.

SHVANG, L.I.

SOKOLOVA, L.S., SHVANG, L.I.; VINOGRADOV, M.I., professor, redaktor;  
MEL'NIKOVA, G.G., redaktor

[Techniques of electroencephalographic investigations] Tekhnika  
elektroentsefalograficheskikh issledovani. Leningrad, Izd-vo Lenin-  
gradskogo universiteta, 1954. 133 p. (MLRA 8:4)  
(Electroencephalography)

SHVANG L.I.

ANDRIYASHEVA, N.M.; BAKKAL, T.P.; BEKKER, S.M.; BOGDANOV-BEREZOVSKIY, V.V.;  
BRAUN, A.D.; VASILEVSKAYA, N.L.; GANUSENKO, M.N.; GARMASHEVA, N.L.;  
DEMICHEV, I.P.; DRIZGALOVICH, S.Ye.; KALININA, N.A.; KORSKOVA, G.F.;  
KRYZHANOVSKAYA, Ye.F.; MIROVICH, N.I.; PROROKOVA, V.K.; PUGOVISHNI-  
KOVA, M.A.; RESHETOVA, L.A.; SVETLOV, P.G.; UTEGENOVA, K.D.; KHECHI-  
NASHVILI, G.G.; SHVANG, L.I.; GARMASHEVA, N.L., professor, redaktor;  
RUDAKOV, A.V., redaktor; NOLEVA, M.S., tekhnicheskiiy redaktor.

[Reflex actions in mother-fetus interrelations] Reflektornye reaktsii  
vo vzaimootnosheniakh materinskogo organizma i ploda. [Leningrad]  
Gos. izd-vo med. lit-ry, Leningradskoe otd-nie, 1954. 266 p. (MLRA 7:10)  
(Pregnancy) (Embryology)

SHVANG, L.I.; FEDOROV, A.D.

Use of piezoelements for the registration of certain physiological processes. *Fiziol.skur.* 40 no.1:90-94 Ja-V '54. (MLRA 7:2)

1. Laboratoriya normal'noy i patologicheskoy fiziologii Instituta akusherstva i ginekologii Akademii meditsinskikh nauk SSSR, Leningrad. (Piezoelectricity) (Medical instruments and apparatus)

SHVANG, L.I.,; KUDRYASHOV, G.F.,; TROPIMOV, V.I.

Registration of fetal heart tones. Fiziol. zh. SSSR 42 (MIRA 9:5)  
no.1:117-119 Ja 56.

1. Laboratoriya fiziologii Instituta akusherstva i ginekologii  
AMN SSSR, Leningrad.

(HEART, embryology,  
intrauterine registration of tonus (Rus))

SHVANG, L. I., Cand Bio Sci -- (diss) "Application of certain biophysical methods for investigation of reactions of a female organism and of an intrauterine fetus." Leningrad, 1957, 17 pp (Academy of Sciences USSR. Institute of Physiology in I. P. Pavlov) 100 copies (KL, 36-57, 105)

SHVANGIRADZE, M.D.; TSKHADADZE, K.A.; TARENKO, M.I.; GOGUADZE, V.P.

Increase of the sensitiveness of nitrogen detection by the  
Lassaigne method. Zhur. anal. khim. 18 no.11:1399-1400 N '63.  
(MIRA 17:1)

1. Institut prikladnoy khimii i elektrokhemii AN GruzSSR, Tbilisi.



SVK SHVANGRADZE, R. R.

U S S R .

Spectrochemical determination of praseodymium in  
lanthanum and europium in samarium with a medium dis-  
persion spectrograph, TSP-22: G. Kryuger and R. R.  
Shvangradze. J. Anal. Chem. U.S.S.R. 9, 19 (1954)  
(Engl. translation). See C.A. 48, 6907i. H. L. H.

SHVANGIRADZE, R. R.

USSR/Chemistry

Card 1/1

Authors : Kryuger, G., and Shvangiradze, R. R.

Title : Quantitative spectrochemical determination of praseodymium (Pr) in lanthanum and europium in samarium on an ISP-22 medium dispersion spectrograph

Periodical : Zhur. Anal. Khim, 9, Ed. 1, 11-21, Jan-Febr. 1954

Abstract : Methods were developed for spectrochemical determination of praseodymium in lanthanum and europium in samarium with the aid of a conventional ISP-22 medium dispersion spectrograph. The determination sensitivity is not much lower than the sensitivity of a much higher dispersion instrument and the difference between the media used in both cases. It is difficult to say whether the radiation or the spectral method is more accurate but under circumstances described the spectral analysis method is more accurate but under circumstances described the spectral analysis method is much faster than the radiation method. Six, English and German references. Tables, graphs.

Institution : .....

Submitted : Oct. 29, 1953

SHVANGIRADZE, R.R.

USSR/Chemistry

Card : 1/1

Authors : Nogaydeli, A. I., and Shvaniradze, R.

Title : Synthesis of diacetylene glycols in the presence of  $\text{Cu}_2\text{Br}_2$

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 1025 - 1026, June 1954

Abstract : It was established, experimentally, that  $\text{Cu}_2\text{Br}_2$  as well as  $\text{Cu}_2\text{Cl}_2$  are excellent condensing media, during the derivation of diacetylene glycols from mono-substituted acetylene carbinols. The reaction of an equimolecular mixture of dimethylacetylenil and cyclopentylacetylenil carbinols, in the presence of  $\text{Cu}_2\text{Br}_2$ , yielded a nonsymmetrical glycol - 2-methyl-6-(1' - oxycyclopentyl)-hexadiene-2, 5-ol-2. Two references.

Institution : The I. V. Stalin State University, Tbilissi

Submitted : November 22, 1953

SHVANGIRADZE, A. N.

2088. Quantitative spectrographic analysis of zirconium for hafnium content. G. Kryuger, R. R. Shvangiradze and T. A. Morgovaya. (Zh. Anal. Khim., 1958, 10 (1), 20-27).—Spectrographic determination, with a medium dispersion spectrograph, of 0.02 to 15 per cent. of Hf in zirconium is carried out on a mixture of the oxides with graphite and sodium pyrophosphate (1 + 4 + 1) placed in the crater of a graphite electrode. Excitation is by a.c. arc, and the lines Hf II 2393.83 and Zr II 2392.68 Å (for contents 0.01 to 1.0 per cent.) and Hf II 2417.69 and Zr II 2416.88 Å (for contents 0.3 to 10 per cent.) are read. Standards are prepared from the pure oxides. The mean error is  $\pm 5$  per cent. G. S. SMITH

Smith

SHVANGIRADZE, R.R. Cand Chem Sci (diss) "Spectral analysis  
of rare-earth elements and <sup>of some</sup> ~~of some~~ rare elements." Mos , 1957  
8 pp 22 cm. (Inst <sup>of</sup> Geochem and analyt <sup>city</sup> Chem in V.I. Vernadskiy <sup>or</sup>  
~~USSR~~ Acad Sci <sup>USSR</sup>) 100 copies  
(KL, 11-57, 97)

AUTHORS: Shvangiradze, R. R., Mozgovaya, T. A.

75-6-8/10

TITLE: Spectrographical Determination of Calcium, Magnesium, Copper, Aluminum, Iron, Titanium and Boron in Purest Silicon. (Opredeleniye kal'tsiya, magniya, medi, alyuminiya, zheleza, titana i bora spektral'nym metodom kremnii vysokoy chistoty).

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1957, Vol. 12, Nr 6, pp. 708-713 (USSR).

ABSTRACT: A method for the quantitative spectrographic determination of calcium, magnesium, copper, aluminum, iron and titanium in purest silicon by means of the spectrograph ИСГ 22 is described. The analysis was performed with a relatively intense current, 7 to 10 amperes. Standard specimens with  $10^{-2}$  -  $10^{-5}$  % of the above-mentioned contaminations were produced for the determination. For the determination of boron the experiments were conducted in a special quartz balloon in a hydrogen atmosphere, in order to eliminate molecular spectra of  $\text{SiO}_2$ . The balloon has two openings for both the inlet and outlet of nitrogen. A flat transparent lens is fixed on one side of the balloon for the outlet of the radiation. An amount of  $1.5$  to  $2 \cdot 10^{-4}$  % boron in silicon were determined by this method. The probable error amounts to  $\pm 15$  %.

Card 1/2

Spectrographical Determination of Calcium, Magnesium, Copper, 75-4-3/23  
Aluminum, Iron, Titanium and boron in Purest Silicon.

There are 10 figures, 3 tables, and 5 references, 4 of which are  
Slavic.

SUBMITTED: September 26, 1956.

AVAILABLE: Library of Congress.

1. Silicon-Calcium content
2. Silicon-Magnesium content
3. Silicon-Copper content
4. Silicon-Aluminum content
5. Silicon-Iron content
6. Silicon-Titanium content
7. Silicon-Boron content
8. Spectrographic analysis

Card 2/2

SHVANGIRADZE, R.R.; SIMONOVA, N.V.

Role of graphite powder in spectrum analysis and its application  
for the analysis of antimony of high purity. Zav. lab. 24 no. 7:881-  
883 '58. (MIRA 11:7)

(Graphite)  
(Spectrum analysis)  
(Antimony--Spectra)



15-1957-10-14156D

Translation From: Referativnyy zhurnal, Geologiya, 1957, Nr 10,  
p 126 (USSR)

AUTHOR: Shvangiradze, R. R.

TITLE: Spectrum Analysis of Rare Earths and of Several Rare  
Elements (Spektral'nyy analiz redkozemel'nykh i neko-  
torykh redkikh elementov)

ABSTRACT: Bibliographic entry on the author's dissertation for the  
degree of Candidate of Chemical Sciences, presented to the  
In-t geokhimii i analit. khimii (Institute of Geochemistry  
and Analytical Chemistry), Moscow, 1957

ASSOCIATION: In-t geokhimii i analit. khimii (Institute of Geochemistry  
and Analytical Chemistry), Moscow

Card 1/1

24(7)

PHASE I BOOK EXPLOITATION

Ulov. Universitet

807/1700

Materialy k Vsesoyuznogo soveshchaniya po spektroskopii, 1956.  
t. II. Atomnaya spektroskopiya (Materials of the 10th All-Union  
Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy)  
Moskva: Izdatel'stvo L'vovskogo univ., 1958. 568 p. (Series: Ite:  
Viznicheskiy zhurnal. vyp. 4(9)). 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po  
spektroskopii.

Mitral Board: G.S. Landsberg, Academician, (Resp. Ed.);  
B.S. Reprent, Doctor of Physical and Mathematical Sciences;  
I.L. Pablinitskiy, Doctor of Physical and Mathematical Sciences;  
V.A. Pavlovskiy, Doctor of Physical and Mathematical Sciences;  
V.S. Koritskiy, Candidate of Technical Sciences; S. K. Kovalev,  
Candidate of Physical and Mathematical Sciences; L.V. G. Milyanovich  
(Presend), Doctor of Physical and Mathematical Sciences; A.Ye.  
Glasman, Doctor of Physical and Mathematical Sciences;  
M.Ye. S.G. Gusev, Tech. Ed. T.V. Saranyuk.

FOREWORD: This book is intended for scientists and researchers in  
the field of spectroscopy, as well as technical personnel  
using spectrum analysis in various industries.

CONTENTS: This volume contains 177 scientific and technical studies  
of atomic spectroscopy presented at the 10th All-Union Confer-  
ence on Spectroscopy in 1956. The studies were carried out by  
members of scientific and technical institutes and include  
extensive bibliographies of Soviet and other sources. The  
studies cover many phases of spectroscopy: spectra of rare earths,  
electromagnetic radiation, physicochemical methods for controlling  
uranium production, physics and technology of gas discharges,  
optical and spectroscopy, abnormal dispersion in metal vapors,  
spectroscopy and the combustion theory, spectrum analysis of ores  
and minerals, photographic methods for quantitative spectrum  
analysis of metals and alloys, spectral determination of the  
hydrogen content of metals by means of isotopes, tables, and  
atlases of spectral lines, spark spectrographic analysis, sta-  
tistical study of variation in the parameters of calibration  
curves, determination of traces of metals, spectrum analysis in  
metallurgy, thermometry in metallurgy, and principles and  
practice of spectrochemical analysis.

Card 2/31

Briskin, R.R. Studying Ionization and Excitation Conditions  
in the Plasma of an Arc Discharge 338

Kotkin, B.A., and S.M. Solodovnik. Spectrographic Method for  
the Determination of Impurities in Alkali and Alkaline-earth  
Metals 341

Alchb, I.R. Spectrographic Determination of Dispersed Elements  
in Ores and Concentrates, and Determination of Impurities  
in the Dispersed Elements 343

Polyakov, S.M., and A.K. Rusakov. Spectrographic Analysis of  
Rare Earth Elements 346

Shvengiradze, S.B. Spectrum Analysis of Mixtures of Rare Earth  
Elements 350

Schuritsa, B.P., and M.A. Puga. Use of Solid-state Chemical  
Reactions in Spectrum Analysis 355

Schuritsa, B.P., and Ye.A. Leyderman. Use of Solid-state  
Chemical Reactions in Spectrum Analysis 358

Card 2/31

SHVANGIRADZN, R.R.

Spectrum analysis of rare earth mixtures. Fiz.sbor. no.4:  
350-354 '58. (MIRA 12:5)  
(Rare earths--Spectra)

SOV/51-5-1-16/19

AUTHOR: Shvangiradze, R.R.

TITLE: Anomalous Changes in the Intensity of Spectral Lines of Samarium in a d.c. Arc (Anomal'noye izmeneniye intensivnostey spektral'nykh liniy samariya v duge postoyannogo toka)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 1, pp 86-90 (USSR)

ABSTRACT: The present note reports observations on anomalous changes in the intensities of spectral lines of samarium. Mixtures of oxides of rare earths were mixed with graphite in the proportion of 1:1 and burnt in an arc between carbon electrodes at currents of 5 A. A spectrograph ISP-51 with a camera UF-84 were used. Fig 1a gives the curves which show the changes in the spectral line intensities of various rare earths as a function of duration of burning of the arc. This figure shows that samarium lines behave differently from the lines of the other rare earths. As a result, the relative intensity of those pairs in which one of the lines belongs to samarium change considerably in the process of burning in the arc (Fig 1b). Conversely the relative intensity of those pairs of lines which do not include samarium remain practically constant throughout the 15 secs of burning of the arc (Fig 1v). If samarium contains only small amounts of other rare earths (0.02-0.1%), then at the moment of complete combustion of the

Card 1/3

SOV/51-5-1-15/19

Anomalous Changes in the Intensity of Spectral Lines of Samarium in a d.c. Arc

sample the intensity of the samarium spectrum falls while the intensities of the impurity lines rise sharply (Fig 2). Fig 3a shows the curves of the dependences of the intensities of the lines of various rare earths on the arc current. The samarium line intensity rises with current up to 6 A and then remains practically constant, while the intensities of the lines of other rare earths continue to increase with the arc current. The ratio of the intensities of those pairs of lines which include samarium depends strongly on the arc current (3b) while the relative intensity of the pairs which do not include samarium changes only slightly (Fig 3v). The reason for the anomalous behaviour of samarium lies in the processes of transformation of this element from the solid to the gaseous state. The vapour pressure of the samarium compound formed at the arc anode is higher than the vapour pressures of the compounds formed by other rare earths at the same place. The following conclusions should be remembered in practical work.

Card 2/3

Anomalous Changes in the Intensity of Spectral Lines of Samarium in a d.c. Arc SOV/51-5-1-16/19

(1) Use of samarium as a standard element in spectral analysis of mixtures lowers the accuracy of such an analysis. (2) Selective evaporation of samarium may be used to increase the sensitivity of determination of impurities in samarium. (3) At high arc currents it is easier to detect impurities in samarium, and at low arc currents it is easier to detect samarium as an impurity in other rare earths. There are 3 figures and 6 references, 2 of which are international, 5 American and 1 Soviet.

SUBMITTED: December 31, 1957

Card 3/3

1. Samarium - Spectrographic analysis
2. Samarium - Transformations
3. Samarium -- Effectiveness
4. Rare earth elements - Spectrographic analysis
5. Spectrum analyzers - Applications
6. Cameras - Applications

AUTHORS: Shvangiradze, R. R., Simonova, N. V. SOV/32-24-7-43 '65

TITLE: The Part Played by Graphite Powder in Spectral Analysis, and Its Use in the Analysis of High-Purity Antimony (Rol'grafitovogo poroshka v spektral'nom analize i yego primeneniye dlya analiza sur'my vysokoy chistoty)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 881 - 883 (USSR)

ABSTRACT: The present paper describes the investigation of the problem whether an addition of graphite powder to powdery samples exerts an influence on the entrance into the gas cloud of the radiation source, and whether a considerable redistribution of the intensity of the spectral bands takes place. The investigations showed a different effect. Additions of graphite powder to powder of metallic antimony or bismuth effected an abrupt change of the sequence of the entrance of admixtures into the gas cloud as well as a redistribution of the intensity of the spectral lines, whereas silicon and germanium show a much weaker effect. The authors used carbon electrodes, with the anode having a crater into which the powder was filled; a current of 10 amp. and 220 V was used, with the electrode

Card 1/3

SOV/32-24-7-43/65

The Part Played by Graphite Powder in Spectral Analysis, and Its Use in the Analysis of High-Purity Antimony

distance being 3 mm. The results obtained were represented graphically as well as in form of tables. It is mentioned that besides a small consumption of metal powder (mixed with graphite at a ratio of 2 : 1) the band intensity of the neutral atoms of the admixtures is considerably increased, whereas that of the ionized atoms is decreased. The observation made that the smaller the excitation energy the greater will be the increase of the band intensity, and that on the other hand the decrease is greater (in the case of ionized atoms) than the excitation energy, is explained by the change of the temperature of the gas cloud of the arc due to the addition of graphite. The temperature of the gas cloud is calculated by means of a formula according to Boltzmann, with the corresponding individual data of the determination being given. From table 2 may be seen that the sensitivity of determination is within the interval of from  $10^{-5}$  to  $10^{-4}\%$ , which could be achieved by the effect of the graphite powder. There are 3 figures, 2 tables, and 4 references, 3 of which are Soviet.

Card 2/3



SOV/32-24-7-43/65

The Part Played by Graphite Powder in Spectral Analysis, and Its Use in the  
Analysis of High-Purity Antimony

Card 3/3

SHVANGIRADZE R. R.

comparative materials weekly bulletin on progress from previous sessions.

Department members: Clay, glass, polymers, minerals (quality of materials for research), metals, ceramics, polymers, minerals, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653,

68900

S/051/60/008/02/029/036

E201/E391

Sh.Z.

24.3410

5.3100

AUTHORS:

Shvangiradze, R.R. and Dzhamagidze, Sh.Z.

TITLE:

The Effect of Isotopy of the Central Atom on the  
Vibrational Spectrum of Methane

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2,  
pp 274 - 275 (USSR)

ABSTRACT: The authors studied the infrared spectrum of natural methane and of methane enriched with  $C^{13}$  up to 70-90%. An infrared spectrometer IKS-6, calibrated as described by Aleksandrov and Nikitin (Ref 1) was employed. The gas at a pressure of 100 mm Hg was placed in a 15 cm long cell with KBr windows. The spectrum was recorded in the region 2-15  $\mu$ , using LiF and NaCl prisms. A figure on p 274 shows a record of the absorption band of the frequency  $\nu_3$  of methane containing 75%  $C^{13}H_4$ . The experimental values of the fundamental ( $\nu_3$  and  $\nu_4$ ) and composite frequencies of  $C^{12}H_4$  and  $C^{13}H_4$  and their isotopic shifts are given (in  $cm^{-1}$ ) in a table on

Card1/3

68900

S/051/60/008/02/029/036

E201/E391

The Effect of Isotopy of the Central Atom on the Vibrational  
Spectrum of Methane

p 275. In the fifth column of this table the authors list the isotopic shifts of  $\nu_3$  ( $\Delta\nu = 12.7 \text{ cm}^{-1}$ ) and  $\nu_4$  ( $\Delta\nu = 7.3 \text{ cm}^{-1}$ ) calculated by Lechner on the assumption of valence forces. In the sixth column values calculated using the product rules of Teller and Redlich (Ref 2) are given as  $\Delta\nu_3 = 12.3 \text{ cm}^{-1}$  and  $\Delta\nu_4 = 7.3 \text{ cm}^{-1}$ . Agreement between the experimental values of  $\Delta\nu_3 = 8.1 \text{ cm}^{-1}$  and  $\Delta\nu_4 = 7.7 \text{ cm}^{-1}$  and the calculated values just listed is fairly satisfactory. The low values of the isotopic shifts of the frequencies  $\nu_3$  and  $\nu_4$  indicate that the central atom of a tetrahedral molecule of  $\text{XY}_4$  type plays only a small role in vibrations of  $f_2$ -type. ✓

Card 2/2

68900

S/051/60/008/02/029/036

E201/E391

The Effect of Isotopy of the Central Atom on the Vibrational  
Spectrum of Methane

There are 1 figure, 1 table and 2 references, 1 of which  
is Soviet and 1 a translation from English into Russian.

SUBMITTED: July 14, 1959

4

and 5/3

S/051/60/008/04/004/032  
E201/E691

AUTHORS: Shvangiradze, R.R., Oganezov, K.A. and Chikhladze, B. Ya.

TITLE: Isotopic Shifts of Bands in the Electron-Vibrational Spectra of Certain Diatomic Molecules

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 4, pp 452-457 (USSR)

ABSTRACT: The authors measured the isotopic shifts of bands in the electron-vibrational spectra of  $N_2$ ,  $N_2^+$ , CO and  $CO^+$ , enriched with  $N^{15}$  and  $C^{13}$ . The isotopic shifts were measured using the edges of the bands of the second positive system of  $N_2$  (Table 1), the first negative system of  $N_2^+$  (Table 2), the first negative system of  $CO^+$  (Table 3) and the fourth positive system of CO (Table 4). The spectra were recorded with a spectrograph ISP-51 in the visible region and ISP-22 in the ultraviolet region. The spectra of the molecules  $N^{14}N^{15}$ ,  $N^{15}_2$ ,  $(N^{14}N^{15})^+$ ,  $(N^{15}_2)^+$ ,  $C^{13}O$  and  $(C^{13}O)^+$  (formed in the discharge from gaseous  $NH_3$ , NO,  $CH_4$  and  $CO_2$  enriched with  $N^{15}$  and  $C^{13}$ ) were excited in hollow-cathode and in Geisler tubes (no foreign working gas was used). The measured isotopic shifts are listed in Tables 1-4 and Fig 1 shows (by way of example) microphotograms of the  $0 \rightarrow 0$  bands of  $N_2^+$ . The

Card 1/2

85972

24.7200

1144, 1043, 1160

S/126/60/010/005/026/030  
E073/E535

AUTHORS: Tsomaya, K. P. Shvangiradze, R. R.

TITLE: On Phenomena Observed During Mechanical Dispersion of Crystalline Boron ✓

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.5, pp.791-792

TEXT: The phenomenon described in this paper consists in the cessation of the X-ray scattering, which is characteristic to the crystalline state of boron in the disperse state. The specimens were obtained in the form of cylindrical rods up to 8 mm diameter by thermal decomposition of BBr<sub>3</sub> on hot tantalum or tungsten wires (the work for obtaining the elementary boron was carried out by V. I. Khachishvili and Ya. V. Asatiani). Depending on the experimental conditions, polycrystalline boron of various modifications was obtained. The X-ray diffraction patterns, obtained by the powder method directly from large diameter rods, contained blurred interference lines which were not very suitable for precision measurements. For obtaining good quality pictures, the rods were transformed into powder by hitting with an impact load. A part of the thus obtained powder was crushed into finer powder. The Card 1/4

<sup>85972</sup>  
S/126/60/010/005/026/030  
E073/E535

On Phenomena Observed During Mechanical Dispersion of Crystalline Boron

diffraction patterns of the powder prepared by impact crushing differed from those of large diameter rods only by the sharpness of the interference lines. On the X-ray diffraction patterns of the powder, which had been further crushed in a mortar (10 to 20 min), there was a complete absence of lines characterizing the crystalline state of boron but there were some lines characterizing the material of the mortar and an interference halo, which is usually characteristic for amorphous substances. Microphoto recordings of Debye patterns of two differing modifications of boron prior to crushing in a mortar (a,b) and after crushing in a ferrochromium mortar (B,2) are reproduced; in the latter case interference lines of the mortar material appear on the X-ray diffraction patterns. To exclude errors caused by contamination of boron with the material of the mortar and the influence of oxidation of the powder during dispersion, treatment with hydrochloric acid was applied and chemical and spectrum analyses were made to determine the contents of metallic admixtures. The chemical analysis revealed the presence of free boron; the results of spectrum analysis are given in a table

Card 2/4



85972

S/126/60/010/005/026/030

E073/E535

On Phenomena Observed During Mechanical Dispersion of Crystalline Boron

(these were obtained by T. A. Mozgova, N. A. Makharashvili and N. G. Tskiriya). After chemical purification only a diffusion halo was observed on the powder diffraction patterns. Electron diffraction investigation of the powder (carried out by B. V. Aleksandriya) also showed absence of any diffraction pattern that is characteristic for the crystalline state. Apparently this observed effect is not caused simply by an increase in the degree of dispersion of the preparations; a decrease in the crystalline dimensions during mechanical dispersion down to values which are unsuitable for electron diffraction investigations is not considered possible. The authors believe that the observed effect is a summary effect of the increased dispersion and the deep distortion and breaking up of the lattice of particles which are still sufficiently large for X-ray structural study of the dimensions. It is likely that this phenomenon is related to the disorder effect of the crystal lattice of graphite in the sense of approaching the structure of amorphous modifications of carbon (Ref.1). However, in the case of graphite, a considerable effect

Card 3/4

85972

S/126/60/010/005/026/030  
E073/E535

On Phenomena Observed During Mechanical Dispersion of Crystalline Boron

is obtained during long duration crushing in absence of air, the adsorbed components of which change appreciably the character of breaking up of graphite crystals and prevent achieving small particle dimensions (Refs.2 and 3). In the case of boron, a considerable breaking up of the crystalline structure is obtained within a very short time (10 to 20 sec) of mechanical crushing in air. The ability of the lattice to become disordered during mechanical action is obviously associated with the nature of the substance. This effect observed for boron was not observed under equal conditions on other single and polycrystalline substances, as for instance, Si, germanium, boron carbide etc. Insufficient experimental material is available at present to explain fully this effect. Acknowledgments are made to I. G. Gverdtsiteli for his interest and advice and to K. I. Yelistratova for her participation in the work. There are 1 figure, 1 table and 3 references: 2 Soviet and 1 English.

SUBMITTED: April 12, 1960

Card 4/4

ALEKSANDRIYA, B.V.; BARONI, Ye.Ye.; SHVANGIRADZE, R.R.

Electron diffraction study of a plastic scintillator. Vysokom.soed.  
3 no.8:1285 Apr '61. (MIRA 14:9)  
(Scintillation counters)

OGANEZOV, K.A.; SHVANGIRADZE, R.R.

Intensity distribution in the rotational structure of the  
isotopic nitrogen spectra and isotopic analysis. Opt.i spektr.  
10 no.5:577-582 My '61. (MIRA 14:8)  
(Nitrogen--Isotopes) (Spectrum analysis)

SHVANGIRADZE, R.R.; DZHAMAGIDZE, Sh.Z.

Study of the infrared spectra of isotopic oxygen compounds of  
nitrogen. Opt.i spektr. 10 no.5:583-588 My '61. (MIRA 14:8)  
(Nitrogen oxide--Spectra) (Oxygen--Isotopes)

SHVANGIRADZE, R.R.; OGANEZOV, K.A.; CHIKHLADZE, B.Ya.

Temperature and thermal equilibrium in an arc burning in inert  
gases. Opt.i spektr. 13 no.1:25-31 J1 '62. (MIRA 15:7)  
(Electric discharges through gases)

L2201

S/051/62/013/004/022/023

E039/E420

24 6711  
11. 1520

AUTHORS: Shvangiradze, R.R., Oganezov, K.A., Chikhladze, B.Ya.

TITLE: Study of the d.c. arc at different pressures of argon and air

PERIODICAL: Optika i spektroskopiya, v.13, no.4, 1962, 615-615

TEXT: Measurements on the radiation emitted by an arc and its temperature for a range of pressures of argon and air are made with a view to determining the nature of the spectral line excitation process. An arc is struck between carbon electrodes in a pressure chamber similar to one described in an earlier paper (A.G.Zhiglinskiy, A.N.Zaydel', E.A.Karklina. Opt. i spektr. v.10, 1961, 696). Interelectrode distance is 4 mm and current 10 A. The electron temperature  $T_{el}$  is obtained from the intensity of the Fe II line. A minimum temperature of  $6.2 \times 10^3$  °K is observed for air at a pressure of  $\sim 300$  mm and for argon a minimum temperature of  $7.4 \times 10^3$  °K at  $\sim 1$  atm. At pressures greater than that at which the minimum temperature occurs the electron temperature  $T_{el} = T_{gas}$  while at lower pressures  $T_{el} > T_{gas}$ .  $T_{gas}$  is measured by means of the Doppler broadening.

Card 1/2

Study of the d.c. arc ...

5/051/62/013/004/022/023  
E039/E420

The difference between  $T_{el}$  and  $T_{gas}$  at lower pressures is due to the decrease in number of elastic collisions of the electrons with gas molecules. The arc temperature depends on many factors and does not have a simple connection with the potential drop across the arc, which is larger in the case of air than in argon. C II and C III lines are only observed at atmospheric pressure for the inert gases, and in argon at pressures  $> 5$  to  $6$  atm they disappear. They are also present in the case of air for pressures  $< 300$  mm. It appears that the presence of these lines does not depend on the temperature of the arc but is a function of pressure. Hence the relative intensity of the carbon lines will give an anomalously high temperature. The lines of the argon atoms are observed at all pressures of argon and are only weakly dependent on pressure. The A I spectrum is produced by means of electron collisions with metastable atoms of argon. There is 1 figure.

SUBMITTED: April 24, 1962

Card 2/2



SHVANGIRADZE, R.R.; DZHAMAGIDZE, Sh.Z.

Using the frequencies of isotopic molecules for determining the  
force constants of  $XY_2$  type nonlinear symmetrical molecules. Opt.  
i spektr. 12 no.3:364-368 Mr '62. (MIRA 15:3)  
(Molecular dynamics) (Isotopes--Spectra)

SHVANGIRADZE, R.R.; MOZGOVAYA, T.A.; SHCHETININA, E.V.

Method for the spectrographic determination of impurities in  
elementary boron. Zhur.anal.khim. 17 no.1:94-96 Ja-F '62.  
(MIRA 15:2)

(Boron--Analysis)

SHVANGIRADZE, R.R.; DZHAMAGIDZE, Sh.Z.

Isotope equilibrium constants of oxygen and nitrogen. Zhur. fiz.  
khim. 36 no.1:225-228 Ja '62. (MIRA 16:8)

1. Fiziko-tekhnicheskii institut AN GruzSSR.  
(Oxygen) (Nitrogen) (Isotope separation)

SHVANGIRADZE, H.R.; OGANEZOV, K.A. .; MOZGOVAYA, T.A.; SHCHETININA, E.V.

Method for stabilizing an arc discharge during the spectrum  
analysis of powdered materials. Zhur. prikl. spektr. 3 no.5:  
397-402 N '65. (MIRA 18:11)